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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	
Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 Ghz Frequency Band, to Reallocate the 29.5-30.0 Ghz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services	CC Docket No. 92-297

COMMENTS OF SUNNYVALE GDI, INC.

Sunnyvale General Devices and Instruments, Inc., opposes so much of the proposal in the Commission's Fourth Notice of Proposed Rulemaking as would reallocate the 31.0-31.3 gHz band for use by LMDS providers on a primary protected basis.

Sunnyvale General Devices and Instruments, Inc. is a company that specializes in communication devices for the traffic control industry, installing full temperature devices for communication that can work in the streets in any city in the United States. This is a market that Frank Ribelin, its principal, has been in for 29 years.

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List A B C D E

I. EXISTING AND FUTURE GOVERNMENTAL LICENSES IN THE 31 gHz BAND SERVE A CRITICAL PUBLIC PURPOSE IN TRAFFIC ENGINEERING

These frequencies are used for traffic video cameras and for traffic signal controllers. Air quality in the United States would be adversely affected by the increased auto idling time that would result from the proposed withdrawal of these frequencies.

The FNPRM proposes a change that will have a major adverse impact on governments with highway and traffic control responsibility. It will undercut the Intelligent Transportation System (ITS) program of the U.S. Department of Transportation under Congressional mandate.

The "relatively light and geographically concentrated" use of this band for traffic control purposes recited in paragraph 102 of the FNPRM is based on misapprehensions of fact. First of all, the records of licenses the FRNPRM relies on appear to be seriously incomplete. Attached hereto are lists of installed devices and contracts in process. Second, the license count does not reflect the inherent time delay in applying the technology to the traffic control environment.

The traffic control industry has and will lag behind the rest of the industries in communications because all of the equipment has to be street-hardened. The cities, counties, and state transportation agencies are not allowed the luxury of trial

and error because of the liability pressure they are always under. They are also held accountable for traffic jams when street are not coordinated.

Traffic jams cause more pollution on our city's streets. These 31 gHz products are helping clear up both these problems in our metropolitan areas. This technology also helps with the problem of incident control on our freeways and metropolitan streets.

The 31 gHz frequency band is an important tool for our transportation engineers and consultants in this field. Sunnyvale General Devices and Instruments requested Sierra Digital Communications to design a microwave unit that could meet the parameters already outlined and also interface with existing equipment in the street, where money is not available for its replacement. This 31 gHz band moves them forward with communications equipment that will not have to be changed out when new equipment replaces existing, older traffic equipment when necessary.

This 31 gHz equipment has been designed to work with the NEMA and the 170 and the future 2070 open architecture traffic controllers. (NEMA and 170 are the two types of controllers.) An article describing the technology, prepared by Mark Biswell, Traffic Systems Analyst, City of Topeka, is attached. This is the first communications device to Sunnyvale's knowledge to be able to bridge this gap. This makes this technology a versatile

tool in the traffic engineers tools. Sierra Digital Communications has been working during the last five or six years with these frequencies. It takes 2 to 3 years to prove a product to the traffic control industry before it is accepted as a viable product.

After the initial slow start which is characteristic of the governmental market, it is starting to be a popular communications tool. (See attached sheets). Please note that from local acceptance to procurement of equipment it takes two years.

The federal government has made it very clear that they are going to build as few new freeways as possible. They are not going to add new lanes, and we in the industry must use technology to handle the traffic better. The 31 gHz technology truly helps advance this federal policy.

This federal policy will force the cities to trench if they do not have conduit already in the ground; the use of this technology reduces signal coordination cost up to 60%. It also works in areas like Hawaii that cannot afford to trench in rock. This gives the cities the capability to do signal coordination and highway incident control now, while helping air quality in the metropolitan areas.

In surveying the cities and other local governments, three attractive features of the 31 gHz technology that the cities mention is (1) getting away from the telephone company, (2)

installing a coordination system that is backhoe-proof, and (3) easy licensing. Also, because of these popular features the microwave costs have been reduced approximately 55 percent over the last four years. Surveillance and incident control is now aiding to remove obstructions faster because the staffs of the cities know what equipment to dispatch to alleviate the problem. Microwave technology also helps the cities to move cameras via microwave to different problem areas. It also lets them move this equipment when it may be needed more in another area.

An article describing the technology prepared by Mark Biswell, Traffic Systems Analyst, City of Topeka, is appended.

II. THE COMMISSION IS REQUIRED BY NEPA AND ITS RULES TO ISSUE AN ENVIRONMENTAL IMPACT STATEMENT BEFORE ACTING ON THE FNPRM.

The Commission is required by National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-35, to evaluate the environmental impact/t on air pollution of its proposal before acting under the FNPRM. Section 1.1307(c) of the Commission's rules implements that statutory requirement.

Under the statutory public interest, convenience, and necessity test the Commission is required to implement the whole law of the United States. In light of Congress' placement of primary responsibility for reduction of air pollution on the states and localities, the Commission should not withdraw the

technical wherewithal for the states to fulfill the Congressionally conferred responsibility to reduce air pollution.

Included in that whole law is the Clean Air Act of 1955, whose purposes are set forth in 42 U.S.C. § 7401 (Congressional findings and declaration of purpose). That section in pertinent part provides:

> (a) Findings
>
> The Congress finds --
>
> ***
>
> (2) that the growth in the amount and complexity of air pollution brought about by ... the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare ....
>
> (3) that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments ....
>
> (b) Declaration
>
> The purposes of this act are --
>
> (1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; ...
>
> (3) to provide technical ... assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and
>
> (4) to encourage and assist the development and operation of regional air pollution prevention and control programs.
>
> (c) Pollution prevention
>
> A primary goal of this act is to encourage or otherwise promote reasonable Federal, State, and local

> governmental actions, consistent with the provisions of this chapter, for pollution prevention.

The Clean Act Amendments of 1977 emphasized Congressional concerns of keeping ambient air pollution below mere maintenance of national ambient air quality standards. See Section 127(a), 91 Stat. 731, codified as 42 U.S.C. § 7470.

Section 1.1307(c) of the Commission's rules requires the Commission to issue an environmental impact statement (EIS), when a possible impact on the environment is brought to its attention. As previously noted, the unnecessary idling of automobile engines produces air pollution violates the public policy twice enacted by Congress in the 1955 and 1977 Clean Air acts quoted above. EISs must take into account not only direct effects but also "indirect effects .... [that] are ... reasonably foreseeable...." CEQ Regulations, 40 C.F.R. § 1508.8. Agency compliance is mandatory. Id., § 1507.1. It necessarily follows that the Commission must issue an EIS with respect to the withdrawal of the 31 gHz band from devices that reduce the causes of air pollution.

The legal requirement for EISs is not limited to licensing actions. Subject agency actions include "adoption of ... rules, regulations, and interpretations adopted pursuant to the Administrative Procedure Act...." Id. at § 1508.18(b)(1).

III. THE PROPOSED AUTHORIZATION OF NEW STATIONS THAT WOULD INTERFERE WITH EXISTING LICENSEES WOULD CONSTITUTE A MODIFICATION OF THE EXISTING LICENSES.

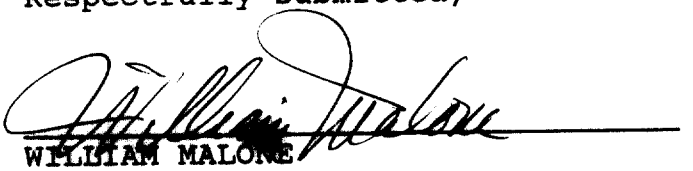
The Commission's proposal to authorize new stations that would interfere with existing primary licensees in the band within their licenses terms would constitute a modification of the existing licenses in the band. This proposition was established by the Supreme Court early-on in FCC v. National B/Cg Co. (KOA), 319 U.S. 239 (1943). In that case "the Commission's rules precluded the operation of a second station at night on KOA's frequency...." Id. at 240. Rejecting the Commission's argument that its action did not alter the literal terms of KOA's license, the Court struck down 5-1 the Commission's attempt to amend its rules to permit the licensing of a second station at night on KOA's frequency." Id. at 241, 244-45.

Conclusion

The Commission should reappraise the impact on existing licensees in the 31 gHz band in light of accurate data as to existing uses and should prepare an environmental impact statement in accordance with Part 1(I) of its rules. In light of a careful appraisal of the adverse impact of its proposal, the

Commission should not adopt the proposed amendments to Part 2 of its rules.

Respectfully submitted,



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Attorney for Sunnyvale GDI, Inc.

Attachments

August 12, 1996

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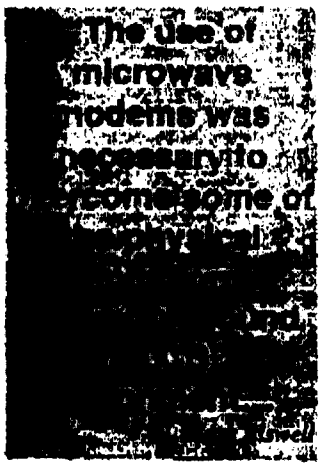
MOVITE AREA NEWS

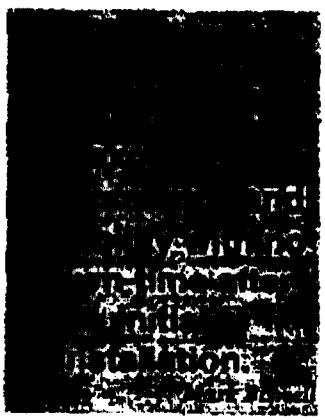
Microwave Traffic Signal Communications

by Mark Biswell, City of Topeka, Kansas



The City of Topeka has recently completed phase three of a four year plan to equip the City's Central Business District with communications for a closed loop system. The communication mediums being used to accomplish the project is a combination of telephone drops, twisted pair cable and wireless communications in the form of microwave modems. The use of microwave modems was necessary to overcome some of the physical limitations commonly found in a CBD environment that prohibits the installation of underground cables. Microwave modems were selected at implementation time as the substitute for phone drops and/or twisted pair due to full-duplex operation, direct integration into the existing communication system without the need to modify traffic controller software, no FCC requirements for allocating a frequency, high reliability (manufacturer rated at 100,000 hours MTBF), low risk for frequency crowding (which is anticipated in the 902-928 MHz Spread Spectrum Radio Bands) and ease of installation.

The microwave modems selected for the project are distributed by Sunnyvale General Devices and Instruments. The 3120 Series Digital Microwave Radio consists of a full duplex radio system operating over the frequency band of 31.0 to 31.3 GHz. The system is capable of processing audio tones within the normal telephone company bandwidth for a two/four wire leased line and can handle a standard two-wire or four-wire telephone. This capability is ideal for direct replacement of twisted pair in environments not conducive to underground or overhead installations. The microwave system consists of an integrated mast mounted antenna or antennas that house the microwave transmitter and receiver assemblies and control and signal processing units. The second component of the system consists of an interface unit that provides the connection between the antennas and the traffic controller. The interface unit is capable of interfacing four antenna assemblies. One interface unit in the system is designated as a master with the downstream installations designated as locals. This designation is configured through jumpers internal to the interface unit. Connection between the interface unit and the antennas is provided through a three-pair 18 gauge cable. The cable provides a foil shield and stranded drain for individual pairs that provide two audio and one power connection to the antenna. Installation of the system at an intersection is basic consisting of mounting and wiring the components and aligning the antennas. Line of sight alignment is a simple process that utilizes a VOM as a signal strength meter at the antenna. Antennas are installed in pairs according to frequencies to provide isolation from adjacent antennas. There are 6 frequency pairs between 31.0125 and 31.2875 GHz and each antenna is designated in A or B configurations (i.e. 6A to 6B). Range for the system is specified by the manufacturer at a maximum distance of 1.5 miles but the units have an operating range of about 4.5 miles in optimal line-of-sight conditions.



FCC requirements for the installation of the microwave units consists of applying for a site license. The process basically notifies the FCC of the type of unit, location in terms of latitude-longitude and operating height (requiring the location to be surveyed if the lat-long is not known) and relation to airports. A blanket site license can be obtained for a pre-determined radius (i.e. city limits) that will allow installations to be made without further application to the FCC.

City signal crews installed 6 units in 1994, 14 units in 1995 and 22 units in 1996 and have experienced excellent performance and reliability with no down-time after initial installation. The microwave modems have also been used for temporary communications during construction projects due to ease of installation. This capability has recently played an invaluable role in preserving communications for a traffic responsive system that was threatened by a road project. A twisted pair communication link was destroyed during construction of a right turn lane but was quickly restored within a few hours by a microwave link.

GDI

Sunnyvale GENERAL DEVICES & INSTRUMENTS, Inc.

(Design, Research, Development and Manufacture of Electronic Traffic Control Modules)

MICROWAVE INSTALLATIONS LOCATION (CITY):	EQUIP-MENT:	CONTACT:	TELEPHONE:	UNIT TR
Atascadero, CA	3120	Brian Sword	805-461-5023	4
Aurora Village, OR	3120	INSTALLATION		2
Burbank, CA	3120	Cotangco Hernando	818-953-9574	2
Caltran District #05	3120			4
Campbell, CA	3120	Tony Rucker	408-364-2927	2
Charlotte, NC	3120	Ken Victory	704-336-2050	3
Colton, CA	3120	INSTALLATION		2
Contra Costa County, CA	3120,90	Lyle Burke	510-313-2263	2
Cupertino, CA	3100,20	Glen Griggs	408-252-4505	4
Flagstaff, AZ	3120	John Harper	602-774-1491	12
Honolulu, HI	3120	Ken Tono	800-527-5002	22
Idaho Falls, ID	3120	INSTALLATION		10
La Habra, CA	3120	Mark Miller	714-992-2990	5
La Vegas, NV	3100,20	Jerry DeCamp	702-229-6611	
Long Beach, CA	3100,30	Larry Bass	310-432-8904	82
Los Angeles, CA	3100	Bob Blackmer	213-485-2263	2
Milpitas, CA	3120	Arlene DeLeon	408-942-2363	3
Montclair, CA	3100,20	Mark Miller	714-992-2990	4
Montgomery, AL	3120	Locke Bowden	205-241-2910	5
Palm Springs, CA	3120	Robert Rockett	619-323-8253	25
Petaluma, CA	3120	Bill Allen	707-778-4304	4
Phoenix, AZ	3120	Brent Headley	602-255-6612	12
Pomona, CA	3120	Dave Acunas	714-620-2395	2
Roseville, CA	3120,40	Scott Gandler	916-774-5439	6
Sacramento, CA	3100	Gary Anderson	916-433-6314	2
San Bernardino, CA	3100	Chuck Wertz	714-384-5282	10
San Jose, CA	3120	Jim Helmer	408-277-4304	2
Santa Clara, CA	3100	Joe Luccessi	408-984-3045	2
Sun City, AZ	3120	INSTALLATION		2
Sunnyvale, CA	3100	Bob Timmerman	408-730-7423	14
Topeka, KA	3120	Mark Biswell	913-295-3913	42
Tracy, CA	3120	Paul Verna	209-836-4420	10
Victorville, CA	3100	George Parmenter	619-955-5150	19
Visalia, CA	3120	Lane Hill	209-738-3419	1
Washington State	3120,60	Morgan Balough	206-440-4402	34
West Data Communications	3100	Mike Korach	206-823-3746	2

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[illegible] FAX 785-0819

Sunnyvale GDL Inc

August 8, 1996

FCC
Response to FCC Dkt No 92-297

INSTALLATIONS THAT ARE IN PROCESS FROM THE CONTRACTUAL POINT: THESE ARE BEING INSTALLED, ON ORDER WAITING TO BE SHIPPED, IN PLANS AND SPECS WAITING FOR FUNDING, IN THE PLANS AND SPECIFICATION WRITING AND PLANNING STAGE STAGE

NORTH LAS VEGAS (2 JOBS) TOTAL 12 TR'S
LAS VEGAS (54) TR'S
SALINAS (4) TR'S
SPARKS (4) TR'S
GRAND PIEREE (12)
NEVADA, STATE OF (12)
CARSON CITY (8)
DISTRICT 11 CALIFORNIA (2)
HARRIS COUNTY (12)
MILWAUKEE (4)
TEXAS, STATE OF DISTRICT 02 (16)
EL PASO (4)
MESA (4)
NEW YORK, STATE OF (28)
LOS ANGELES (4)
DISTRICT 7 CALIFORNIA (2)
DISTRICT 03 CALIFORNIA (6)
MILPITAS (6)
REDWOOD CITY (8)
MONTGOMERY (4)
MANNASSIS (2)
DALY CITY (6)
LA HABRA (14)
PALM SPRINGS (12)
LOS ANGELES (4)

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HAWAII (22)
HAWAII (6)
SPARKS-RENO (16)
COBB COUNTY (8)
ARLINGTON (12)
SAN DIEGO (10)
SAN DIEGO (8)
LOS ANGELES (2)
COLTON (10)
VISALIA (6)
WASHINGTON, STATE OF (?)
IDAHO FALLS (8)
NORTH CAROLINA (4)
ST. LOUIS (?)
MONTCLAIR (8)
LAS VEGAS (2)
HARTFORD (4)

CONSULTANTS That are writing this technology into specifications
Barton Aschman
Kimberly- Horn
JHK
Meyer-Mohaddas
8 to 10 smaller ones

Sincerely,

Frank Ribelin
President

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